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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,738	12/08/2000	Soon Ho Choi	2658-0247P	1195

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EXAMINER	
DEO, DUY VU NGUYEN	
ART UNIT	**PAPER NUMBER**
1765	7

DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.	Applicant(s)	
09/731,738	CHOI ET AL.	
Examiner	**Art Unit**	
DuyVu n Deo	1765	

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 is indefinite because it recites an apparatus, however, it doesn't describe any part of an apparatus but steps of a method. Since it is amended to depend on claim 1, any prior art that reads on claim 1 would also read on claim 18 because it doesn't have any other apparatus limitations excepts ones that are cited in claim 1.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kinose (JP 10-22358).

US 5,915,396 is considered to be an accurate translation of JP 10-22358. A translation of JP 10-22358 will be provided upon applicant's request.

Kinose describes an apparatus comprising: an UV cleaner, and transportation robots 10 or 11 (claimed conveyor) to transport substrate to and from the UV cleaner (figures 4, 6, and 10; col. 5, line 55-col. 6, line 12).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 4-7, 9-12, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinose and admitted prior art.

Unlike claimed invention, Kinose doesn't describe an apparatus that include both the UV cleaner and a wet etching unit. However, his apparatus is capable of providing both the UV and a wet etching unit because he teaches that processing units 5 and 6 would include UV cleaner, and chemical solution for cleaner (col. 5, line 55-65). He also teaches additional units can be added (col. 8, line 15-18) and the units of apparatus can be performing any other processes and may be arranged in any of various configuration (col. 14, line 36-35). Since a method of processing a LCD including requiring UV cleaner and wet etching is well known to one skilled in the art, as described in pages 1-3 of the specification, it would be obvious to one skilled in the art to modify Kinose's apparatus by including units such as UV cleaner and wet etching because as well known to one skilled in the art (shown in page 3 of specification) that it cost more time to move substrate to different apparatus for different step; therefore, it is more efficient to have all the steps of processing a substrate to be done within an apparatus including UV cleaner and wet

etching units. Further, by eliminating moving of substrate from apparatus to another would reduce contamination on the substrate during transferring.

Referring to claims 2 and 7, since the transportation robots 10 and 11 are for transferring substrate, they would have to be for transferring substrate to and from the UV cleaner or transferring substrate from UV cleaner to the etching unit.

Referring to claims 4, 5, 10, 11, admitted prior art also describe processing an LCD substrate including electrode terminals and wires (pages 1 and 2).

Referring to claim 9, it would be obvious to have a transporter or conveyor between the UV cleaner and the etching unit so that wafers can be transferred from one unit to another.

Referring to claims 12 and 18, Kinose also describes units such as a spin scrubber for washing substrate with water, a spin dryer for drying wafer (col. 8, line 45-48) and having other units including a tilt drain part, a de-ionized rinse part would be obvious as taught by admitted prior art in order to process an LCD with a reasonable expectation of success. Any prior art that reads on claim 1 would also read on claim 18 because it doesn't have any other apparatus limitation accepts ones that are cited in claim 1.

Claim Rejections - 35 USC § 103

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kinose and admitted prior art as applied to claim 1 above, and further in view of Kizaki et al. (US 5,763,892).

Unlike claimed invention, above prior art doesn't describe an excimer UV light. Kizaki describes an UV irradiator for substrate treatment system such as an LCD using an excimer UV

light (col. 1, line 15-26; col 8, line 17-22). It would be obvious for one skilled in the art to use an excimer UV light in light of Kizaki for wafer treatment because Kizaki teaches that it can be stabilized in an extremely short time after being turned on (col. 8, line 20-21).

Allowable Subject Matter

8. Claim 8 remains allowable.

Response to Arguments

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Kinose doesn't teach a cleaning apparatus used for wet etching as set forth in claim 1 or neither Kinose and admitted prior art teaches using an UV cleaner to eliminate alien substances remaining on a substrate after forming a photoresist pattern and prior to performing wet etching) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

10. In response to applicant's argument that Kinose doesn't describe a cleaning apparatus used for wet etching or neither Kinose and admitted prior art teaches using an UV cleaner to eliminate alien substances remaining on a substrate after forming a photoresist pattern and prior to performing wet etching, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making,

the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

11. In response to applicant's arguments, the recitation a wet etching apparatus to clean alien substrates from a susbstrate prior to wet etching has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Furthermore, the manner in which an apparatus operates is not germane to the issue of patentability of the apparatus itself. *Ex parte Wikdahl* 10 USPQ 2d 1546, 1548 (BPAI 1989); *Ex parte McCullough* 7 USPQ 2d 1889,1891 (BPAI 1988); *In re Finsterwalder* 168 USPQ 530 (CCPA 1971); *In re Casey* 152 USPQ 235, 238 (CCPA 1967).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DuyVu n Deo whose telephone number is 703-305-0515.

DVD
April 15, 2003

BENJAMIN L. UTECH
SUPERVISORY PATENT EXAMINER
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